

IN THE CLAIMS:

Please amend the claims as follows, substituting any amended claim(s) below for the corresponding pending claim(s). For the claims that are not amended in this response, any differences in the claims below and the current state of the claims is unintentional and in the nature of a typographical error:

1. (Currently Amended) A system comprising:

a controller that, when operably coupled to a light source emitting light at a selectively variable output power,

measures the forward voltage across the light source,

measures an ambient temperature around the light source,

determines a forward current through the light source based on the measured forward voltage,

determines a die temperature of the light source from the measured forward voltage, and

determines an output power for emitted light based upon ~~measurements of one or more of:~~
the forward voltage across the light source, the forward current ~~across~~ through the light source,
the ambient temperature around the light source, and the die temperature of the light source
~~and a factor specific to mounting of the light source.~~

2. (Currently Amended) The system according to claim 1, wherein ~~the output power is determined based further upon the forward current~~ a conversion factor that is specific to a manner in which the light source is mounted converts a difference between the die temperature and the ambient temperature to a value of power.
3. (Currently Amended) The system according to claim ~~[[2]]~~ 1, wherein the forward current is calculated or determined from a look-up table.
4. (Currently Amended) The system according to claim 1, wherein the ~~forward voltage is employed to determine a die temperature for the light source, and wherein the output power is determined based further upon the die temperature~~ controller determines the output power for emitted light without using a plurality of values of forward current through the light source.
5. (Currently Amended) The system according to claim ~~[[4]]~~ 1, wherein the die temperature is calculated or determined from a look-up table.
6. (Original) The system according to claim 1, wherein the output power is determined without measurement of emitted light.

7. (Original) An optical subassembly including the system according to claim 1, the optical subassembly further comprising the light source and adapted for transmission of data over an optical transmission medium.

8. (Original) A computer including the optical subassembly according to claim 7, the computer further comprising:

a processor coupled to the controller; and

a network connection through the optical subassembly to the optical transmission medium.

9. (Currently Amended) A method comprising:

employing a forward voltage measured across a light source to determine a forward current through the light source; and

determining an output power for light emitted from the light source emitting light at a selectively variable output power, wherein the determination of the output power is based upon ~~measurements of one or more of:~~ the forward voltage and current across the light source, the forward current through the light source, an ambient temperature around the light source, and a factor specific to mounting of the light source a die temperature of the light source.

10. (Currently Amended) The method according to claim 9, further comprising:
~~determining the output power based further upon the forward current~~
converting a difference between the die temperature and the ambient temperature to a value
of power using a conversion factor that is specific to a manner in which the light source is mounted.
11. (Currently Amended) The method according to claim ~~[[10]]~~ 9, further comprising:
measuring the forward current;
calculating the forward current; or
determining the forward current from a look-up table.
12. (Currently Amended) The method according to claim 9, further comprising:
~~employing the forward voltage to determine a die temperature for the light source; and~~
~~determining the output power based further upon the die temperature~~
determining the output power for the emitted light without using a plurality of values of
forward current through the light source.
13. (Currently Amended) The method according to claim ~~[[12]]~~ 9, further comprising:
calculating the die temperature; or
determining the die temperature from a look-up table.

14. (Original) The method according to claim 9, further comprising:
determining the output power without measurement of emitted light.
15. (Currently Amended) An optical subassembly comprising:
a light source emitting light at a selectively variable output power; and
a controller that, when operably coupled to the light source,
measures the forward voltage across the light source,
measures an ambient temperature around the light source,
determines a forward current through the light source based on the measured forward voltage,
determines a die temperature of the light source from the measured forward voltage, and
determines an output power for emitted light based upon ~~measurements of one or more of:~~
the forward voltage across the light source, the forward current ~~aeross~~ through the light source, the
ambient temperature around the light source, and the die temperature of the light source
~~and a factor specific to mounting of the light source.~~
16. (Original) The optical subassembly according to claim 15, further comprising:
a temperature sensor proximate to the light source and coupled to the controller, the
temperature sensor providing measurements of the ambient temperature for use by the controller.

17. (Original) The optical subassembly according to claim 16, wherein the controller further comprises:

a voltage detector providing measurements of the forward voltage to the controller.

18. (Currently Amended) The optical subassembly according to claim ~~[[17]]~~ 15, wherein ~~the output power is determined based further upon one or both of the forward current and the die temperature~~ the controller applies a conversion factor that is specific to a manner in which the light source is mounted to convert a difference between the die temperature and the ambient temperature to a value of power.

19. (Currently Amended) The optical subassembly according to claim ~~[[18]]~~ 15, further comprising:

a memory communicably coupled to the controller, the memory containing one or both of a look-up table for the forward current and a look-up table for the die temperature.

20. (Currently Amended) The optical subassembly according to claim ~~[[19]]~~ 15, wherein the output power is determined without measurement of emitted light emitted by the light source.